

**ABSTRACT OF THE DISCLOSURE**

A method for tensioning and positioning a fiber optic cable includes providing a first portion of the fiber optic cable in a first support. The first portion of the fiber optic cable is secured to the first support with a first clamp attached to the first support. A second portion of the fiber optic cable is then provided in a second support, and secured thereto with a second clamp attached to the second support. A cam contacting the second support is then rotated, thereby rotating the second support due to its weight and the weight of the second clamp. The rotation of the second support creates a gravity-assisted moment arm that uniformly and repeatably tensions and positions the fiber optic cable. After the fiber optic cable is uniformly tensioned and positioned, a laser may be applied to the cable to etch a refractive-index grating in the glass optical fiber portion of the cable. Once the grating is etched, the cable may be removed by reversing the method. Another fiber optic cable may be inserted in the first and second supports, and the process may then be repeated.